



**STATE OF RHODE
ISLAND
UNIFIED
INFRASTRUCTURE
PROJECT**

**MONTHLY IV&V ASSESSMENT
MAY 2016**

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Author	William Riippi, CSG Project Manager
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1. OVERVIEW

1.1 Purpose

The purpose of this report is to provide the Independent Verification and Validation (IV&V) Monthly Assessment for the Rhode Island Unified Health Infrastructure Project (RI UHIP). CSG Government Solution's (CSG) IV&V services provide an independent perspective of project activities, plans, and processes to identify risks and make actionable recommendations on how those risks can be addressed or planned for and managed.

This Monthly IV&V Assessment is an end of the month assessment and establishes a baseline for ongoing monthly assessments. This assessment provides a snapshot of project health, observations, and actionable recommendations to address risks identified during the month.

The CSG IV&V team analyzed the governance practices, current activities, processes, procedures, project documents, completed deliverables, and other project artifacts, as well as conducted interviews with some of Deloitte's team members and observed project meetings. This document contains information collected from May 1, 2016 through May 31, 2016.

The Monthly IV&V Assessment for the RI UHIP is expected to provide the following benefits:

- A high-level management review of the RI UHIP processes and product risk
- Early identification, planning, and resolution of risks and issues
- Increased likelihood of project success
- Increased overall project quality

1.2 Background

The RI UHIP was launched on January 22, 2013. The goals of the RI UHIP focused on implementing an Affordable Care Act (ACA)-compliant health insurance marketplace and an integrated eligibility system solution via two phases.

- **Phase 1:** Implemented a fully compliant ACA health insurance marketplace by October 1, 2013. Phase 1 officially ended after the implementation of Enhancement Release 6.6 on February 1, 2016.
- **Phase 2:** Implement an integrated eligibility system that includes programs such as TANF, SNAP, and other human services programs in July 2016.

CSG has been engaged to provide IV&V services to the RI UHIP. The CSG approach to IV&V for the RI UHIP is tailored to meet the specific requirements of this project. Currently, the RI UHIP is in Phase 2.

2. PROJECT HEALTH DASHBOARD: MAY 2016

Below is a summary Dashboard of the RI UHIP as of May 31, 2016. Overall, Release 7 Risk is trending High Risk due to a growing number of key observations that can impact Go-Live. Continue to expedite corrective actions with a focus on key activities and functionality critical to Go-Live, as well as development of contingency plans as required. See Section 4.3 for supporting detailed observations and recommendations.

➤ **Table 1 – Project Health Dashboard**

Rhode Island Unified Health Infrastructure Project											
Phase 2 – Release 7											
PROJECT STATUS INDICATORS											
SCOPE			COST			SCHEDULE/RESOURCES			QUALITY		
Previous	Current	Trend	Previous	Current	Trend	Previous	Current	Trend	Previous	Current	Trend
Moderate	Moderate	-	Moderate	Moderate	-	High	High	-	High	High	-

3. KEY OBSERVATIONS AND RECOMMENDATIONS

Key observations and recommendations identify those areas that need immediate attention and focus to improve or maintain the health of the project. The following sections summarize our observations and recommendations for those categories that received a status of high risk and some key observations and recommendations for categories that received a status of medium risk during this assessment period.

The detailed observations in Section 4.3, for which the risk rank is rated as high risk or medium risk, should be carefully reviewed and risk response strategies and plans developed. For those observations rated with a low or none risk rank, the State should continue to monitor these areas to ensure controls and processes remain effective.

The key observations and key recommendations are divided into the following Risk Assessment Areas of Focus from the Project Health Dashboard:

- Scope – Are project activities properly defined and managed throughout UHIP?
- Cost – Are budget/funding requirements defined and managed?
- Schedule/Resources – Is the schedule defined, managed, and properly resourced?
- Quality – Are quality processes (System Development Life Cycles and Project Management Processes) defined and followed resulting in quality deliverables?

3.1 Scope

The scope category measures progress against requirements to ensure existing requirements are delivered and new or changed requirements are addressed. Change Control impacting the project's schedule, resources requirements, and budget are considered.

3.1.1 Progress Since Last Report

Since the last reporting period, the **Phase 2 scope remains a moderate risk, but is trending high** due to a number of related observations and risks that can impact scope. Continue to consider and implement corrective actions as well as applicable risk mitigation.

3.1.2 Observations and Recommendations

- **Several Interfaces not Initially Identified**
 - ✓ **Observation**
 - Deloitte and Northrup Grumman conducted an interface reconciliation to determine what interfaces were not initially identified. 21 data interfaces were identified as of 5/16/2016 (less than the 156 initially considered). The final list from the reconciliation will be determined after State/DHS review. There is a high risk all data interfaces will not be complete by Go-live.
 - ✓ **Recommendation**
 - The reconciliation process should involve all the agencies. The State should require Deloitte accelerate the development and testing process so they can be tested in UAT. An acceptable work around should be established for any interfaces determined not required for the initial Go-Live.

3.2 Cost

The cost category measures progress against approved and planned budget allocations.

3.2.1 Progress Since Last Report

Since the last reporting period, the **Phase 2 cost remains a moderate risk, but is trending high** due to potential cost increases resulting from observation impacts and risk mitigation related to potential delays. Consider actions to control cost and mitigate financial risk.

3.2.2 Observations and Recommendations

➤ Potential Increase in Project Expenditures

✓ Observation

- Project expenditures are at risk to increase if a number of the observations that have been identified to impact the project schedule, resources, quality and scope are realized. Mitigation factors being considered may also result in increased costs. Selected events and observations that raise this concern include:
 - Completion of UAT on schedule to support Go-Live is at risk.
 - Approximately 50% of the initially identified interfaces are behind schedule and considered High Risk as of 4/15/2016.
 - The Release 7 development schedule was previously revised and any further extension will significantly increase the risk to meet the Go-Live date. Mitigation being considered is to delay selected functionality into September.

To the IV&V Team's knowledge, there are no CRs pending that substantially impact the budget as this time. However, the CRs that may result from extending the schedule, adding resources, and adding scope to mitigate delays are likely to result in significant increased expenditures.

✓ Recommendation

- The State should develop potential scenarios that may be required to mitigate delays and estimate resulting expenditures. Evaluate the current project budget and make plans for potential variance. If funding is not currently available, plans for additional funds should be considered.

3.3 Schedule/Resources

The schedule/resources category measures the quality and validity of the project schedule. It also measures progress against a valid, baselined work plan and verifies the project team is meeting the timeframes documented within that plan.

3.3.1 Progress Since Last Report

Since the last reporting period, the **Phase 2 schedule and resources remain a high risk** due to increasing observations and risks related to schedule impacts and resource availability that can impact Go-Live. Consider corrective actions with a focus on key activities, critical functionality, and requirements to support Go-Live.

3.3.2 Observations and Recommendations

➤ **UAT requires improved resources, test scripts, and Agency SME support**

✓ **Observation**

- The inconsistent resources, poor quality test scripts, and lack of agency SME support for UAT is increasing the current high risk state toward critical. The daily status updates clearly show that UAT is not progressing at the level necessary to complete testing by the planned date.

✓ **Recommendation**

- The State should assign resources with the required expertise and knowledge to review and develop quality scripts using the appropriate FDD. The State should assign a dedicated team of testers with the skills, commitment, and qualifications for the positions as defined by UAT management. Each agency should provide a dedicated SME onsite during UAT to support scriptwriters and testers.

➤ **Limited Production Window to Complete Final Conversion**

✓ **Observation**

- Mock Conversion prior to Go-Live is scheduled to be completed in 6 days. However, the production window timeframe for the final conversion is scheduled to be completed in 3 days. The timeline and number of days allocated to complete the final conversion appears to be at high risk and the Go-Live schedule may be impacted.

✓ **Recommendation**

- The State and Deloitte should plan to add a buffer period of time for the production conversion. If required, add CPU and RAM for the conversion. State should require Deloitte to finalize the infrastructure/ environment capacity topology. Additionally, the mitigation plan should be developed in conjunction with all the agencies.

➤ **Risk of Completing UAT On Time**

✓ **Observation**

- Deloitte is providing defect fixes and/or placing defects in a ready for test status at a pace that is not able to be met by UAT. With the number of test scripts and the limited number of resources, retesting the defects and verifying the validity of the fix is not possible without further putting the schedule of new case execution at risk.

✓ **Recommendation**

- The State should consider adding staff to focus on the retest efforts. This could minimize the impact of pushing actual execution off track. The State should ensure the same testers and quantity of testers are consistently provided. This risk was escalated to the State and DHS has provided testers and is continuing to provide additional testers to support UAT testing efforts. A daily attendance sheet is being maintained to track the number of testers and scripters at UAT.

3.4 Quality

The quality category measures compliance with design including defect levels identified during testing, production defect identification, and the ability to quickly resolve quality issues. It also serves to evaluate the adherence to project management processes outlined within the project management plan, system development life cycle processes, and via the quality of all deliverables.

3.4.1 Progress Since Last Report

The project quality for **Phase 2 quality remains a high risk** due to a growing number of observations and risks that can impact Go-Live. Consider corrective actions to monitor and continuously improve quality.

3.4.2 Observations and Recommendations

➤ Preliminary IV&V Security Assessment Report (SAR) Revealed Several Findings

✓ Observation

- The preliminary SAR, performed by the IV&V Team and based on MARS-E 1.0 controls and vulnerability testing on application code and the network/servers, revealed several findings. The findings were categorized as 29 High, 17 Moderate, and 4 Low. Per CMS/FNS guidance, Go-Live is not allowed with more than 5 High findings.

✓ Recommendation

- The State should ensure incorporating all the IV&V SAR findings into POAM prior 06/01 CMS submission. The State should require Deloitte to provide State and IV&V with their remediation plan. A plan to address all findings should be submitted for review. Ensure all highs are being addressed prior to Go-Live. Resolution of High findings should be scheduled prior to Go-Live and the priority levels should be determined by the State technology leads or CISO.

➤ Mock Pilot 4 Plan needs improvement

✓ Observation

- The IV&V team has several concerns regarding the draft Mock Pilot (MP) 4 plan. These concerns include:
 1. There is minimal planning to date, to execute each program in MP 4 before go-live.
 2. Number of cases to be executed during Pilot have not been finalized.
 3. The interface testing and connectivity plan with the trading partners for the pilot is not documented.
 4. OHHS plans to test only one program (OMR) out of six plus programs in pilot.
 5. FNS/CMS may not be aware that a number of programs are will be excluded from the final Pilot.
 6. Lesson learned or challenges faced during Pilot 3 have not been documented or discussed with the State.
 7. No communications are planned on lessons learned from MP 4 before Mock conversion 14 execution.
 8. Feedback/comments from FNS/CMS have not been explicitly reviewed and discussed for inclusion into the MP 4 plan.
 9. Training for all workers/testers prior to MP 4 will not be complete.

10. To complete or retest potential work requests within two weeks will be a challenge before Go-Live.

Since MP 4 is only scheduled for 2 weeks, planning and contingencies must be thoroughly considered prior to the pilot start to minimize the risk of delays.

✓ **Recommendation**

- The State should require Deloitte to schedule a meeting with all agencies, including Pilot leads, to address the concerns listed in the observation. Additionally, the plan should be reviewed to confirm all programs are successfully tested with production data in MP 4 before Go-Live. The MP 4 plan should be submitted to FNS/CMS for approval.

➤ **Software Release Process Quality**

✓ **Observation**

- Recent releases of software builds have shown that the software processes on the project may not be following best practices. The SIT planned for the Build 5 Code was not completed prior to the code being released into UAT on 5/2/2016. The build had many defects, including the reoccurrence of defects that were resolved and tested in the previous software. Additionally, the Build 5 Code did not include all the planned functionality (e.g., APTC calculations and Medicaid Renewal were not included). The number of defects found in UAT, including the reoccurrence of defects that were resolved and tested in the previous versions suggest incomplete regression testing and the lack of a configuration control process. While these problems currently negatively impact the UAT and Pilot testing prior to Go-Live, the continuation of low quality releases during maintenance and operation (M&O) may have an overall greater impact to RI UHIP clients.

✓ **Recommendation**

- The State should ensure Deloitte's software release policies and processes follow best practices and include acceptable development and schedule management, SIT processes and regression testing.

➤ **Mock Pilot 3 Key Risks and Issues**

✓ **Observation**

- Approximately 282 defects were logged and 81 critical/high have not been resolved (118 total are unresolved). Major concerns include:
 1. All programs and interfaces planned for Mock Pilot 3 have not been executed and tested to date.
 2. Eight interfaces were initially identified for end-to-end testing with the trading partners for Mock Pilot 3.
 3. A number of incorrect or incomplete data conversion errors were observed in pilot environment.
 4. Application error page issues have occurred that result in halting the application. Application error page is an indication that the code is not stable.
 5. User roles and permissions are not set up correctly (e.g., workers did not have the appropriate privileges).

Other issues being monitored include system performance, EBT card number format, scanning and printing, and testing and certification of notices. The occurrence of these problems during operations could impact operations.

✓ **Recommendation**

- The State should require Deloitte to evaluate and fix all high and critical defects prior to starting Mock Pilot 4. All unresolved defects should be planned for resolution prior to Mock Pilot 4 exit.

➤ **Mock 3 Pilot Defect Management**

✓ **Observation**

- Defect tickets are being closed/cancelled without a defined resolution. The majority of defects (estimated 95%) have been closed/cancelled/deferred without the appropriate acknowledgment by the State (e.g. note or comments the tester on the resolution to justify closure) being entered on the Mock Pilot 3 Work Request dashboard. Closing or cancelling defects without State's acknowledgement could result in inaccurate tracking and resolution of defects.

✓ **Recommendation**

- Observation was submitted and discussed with the State. The State has asked Deloitte to assign all the defects to State Pilot Lead for the closure to make sure defect is re-tested successfully.

➤ **UAT environment performance and code deliveries**

✓ **Observation**

- The ability to conduct UAT is being negatively impacted by problems with the test environment and the delay of planned functionality in the code merge. Major concerns include the environment has been unstable (e.g. users are getting time out errors, some pages have taken almost 5 minutes to load, and the Citizen Portal was down for nearly 2 hours) and the 5/1 code merge did not include all the functionality that was planned and errors that were previously fixed returned.

✓ **Recommendation**

- The State should require Deloitte to update the Code Merge plan to provide an accurate reporting of the functionality that will be delivered. The State should require Deloitte to establish a stable and consistent UAT environment.

➤ **Replication of Production Data at Disaster Recovery Site**

✓ **Observation**

- The plan and schedule for production data replication at the Go-Live disaster recovery site is not finalized. There is a limited time to replicate the data at the site and the current process, taking up to 7 days, is too long.

✓ **Recommendation**

- The State should require Deloitte to provide a plan with details for the go-live data replication approach, process and schedule. This should include a plan for verifying the data replicated is consistent with the source data.

4. DETAILED MONTHLY IV&V ASSESSMENT

4.1 Approach

The CSG IV&V team's approach to the Monthly IV&V Assessment is to assess the RI UHIP to understand the environment, project goals and objectives, and the critical project success factors so project risks and actionable recommendations are documented. In areas of the assessment where the project has minimal activity (due to the current phase of the project), we offer proactive advice where appropriate. For items in which we gain early insight, the team has taken an approach to err on the side of caution and to raise any perceived risk in this Monthly IV&V Assessment. This enables those risks to be reviewed and addressed in a timely manner, if needed.

All information received by May 31, 2016 is included in this report. Information received after this date will be included in the next monthly assessment scheduled for June 2016. The Monthly IV&V Assessment documents current observations and recommendations and establishes the baseline for future Monthly IV&V Assessments.

4.1.1 Interviews

The IV&V team schedules interviews with key personnel. Follow up interviews are conducted as needed so that the IV&V team maintains a complete understanding of the project risks.

4.1.2 Project Meetings

IV&V team members attend project meetings and review formal meeting minutes produced from these meetings to ensure that summaries are complete and accurate and all decisions, action items, risks, and issues are appropriately noted. Observing project meetings enables the IV&V team to maintain a full understanding of project processes, current activities, and status and to gain additional insight and understanding of project risks.

4.1.3 Document Review

Formal deliverable reviews are a fundamental validation activity provided by the IV&V team. For each deliverable, the IV&V team conducts a review that is tailored to the subject matter presented. Since the content and purpose of each deliverable varies, the type of review also varies. The IV&V team uses the appropriate industry standards and guidelines in the review of the deliverables. In some cases, the standard may have been specified via contractual documents, while in other cases it may be a best practice for the specific subject matter. In any event, prior to its review, we determine what standards are applicable to the deliverable and whether or not compliance is required. For every deliverable, we verify its correctness, accuracy, completeness, and readability. We also participate in a walkthrough of the deliverable, as appropriate. This walkthrough allows the IV&V team to become familiar with the deliverable and ask specific questions about the deliverable's content.

For subsequent resubmission of DDI vendor deliverables, the IV&V team conducts a review and provides the UHIP stakeholders with a relevant observation of the changes found between the last and most current submission of the deliverable. Any relevant observations are logged in the TeamCSG™ tool and then reported in the next Weekly Status Report.

4.2 Tools

4.2.1 *TeamCSGSMTracker*: Risk Assessment Model

TeamCSGSM Tracker: Risk Assessment Model guides the IV&V team through identifying and evaluating the type and level of risk (low, medium, high) a project may encounter. This allows for a snapshot of level of risk in the project. The risk level helps the RI UHIP and vendor project teams focus their efforts on planning for and responding to key risk areas. The Risk Assessment Model encompasses industry standards for project management and system engineering, such as PMBOK and IEEE standards.

The Risk Assessment Model is used to prioritize and assess the impact of items according to business functions and specific risks. These risk assessment items can be tracked from one review period to the next to determine increasing or decreasing risk levels and project health, not only at an item level but also within a category or subcategory.

The Risk Assessment Model is broken down into three major risk domains: 1) Project Management, 2) IT (information technology) Infrastructure, and 3) SDLC - System Development Life Cycle.

4.3 Detailed Observations and Recommendations

Below is a detailed listing of the observations and recommendations completed by the CSG IV&V team. The table is developed from the information captured in the *TeamCSGSM Risk Assessment Tracking* tool and *TeamCSGSM Risk Assessment Model* categories for reporting, tracking, and follow-up. The CSG IV&V team migrated from a legacy observation tracking tool to the *TeamCSGSM Risk Assessment Tracking* tool in February 2016. As required for tracking legacy observations, an identification number (ID) referenced within the title of an observation, under the Title column, denote the original ID assigned by the legacy observation tracking tool.

Table 2 – New Observations and Recommendations

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
<u>191</u>	Gloria Darby	Testing	Schedule/Resource	UAT requires improved resources, test scripts, and Agency SME support	<p>The risk of UAT not being complete on schedule is high and trending toward critical. The daily status updates clearly show that UAT is not progressing at the level necessary to complete testing by the planned date. Major areas of risk are outlined below.</p> <ol style="list-style-type: none"> 1. Script Quality - EOHS and DHS scripts lack the level of detail and necessary steps to allow the testers to complete execution of the script. To allow progress, minor changes to scripts have been made as long as it would not affect the outcome of the script. In such cases, the changes are modified within the tool (JAMA) so it can be tracked. However, there are cases where the script requires a total rewrite. Scripts are being written based on the flow of the screens within the application itself and not based on the FDD. Scripts are also being written and considered end-to-end where the first part of the script is from a previous and closed UAT. The continuation of the scripts lack the detail necessary to allow any tester to pick up with the script and continue execution. This restriction on who can execute a script will slow down productivity and hinder the ability to time travel, as some scripts are time travel dependent. 2. Inconsistent Test Resources – A dedicated team of testers is required to conduct efficient UAT. Currently, the majority of testers are not consistently available or attend only part time. The quality of testers from different agencies also appears inconsistent. Some testers that have come in recently, required a lot of handholding and lacked basic keyboard functionality (i.e. cut and paste, logging in, etc.) Although each agency is unique, this is a large discrepancy in performance. With HSRI having 	<p>The State should assign resources with the required expertise and knowledge to review and develop quality scripts using the appropriate FDD. The State should assign a dedicated team of testers with the skills, commitment, and qualifications for the positions as defined by UAT management. Each agency should provide a dedicated SME onsite during UAT to support scriptwriters and testers.</p> <p>We recommend State Leadership require the agencies coordinate efforts and commit qualified resources that are dedicated to support UAT scripting and execution. It is also recommended that each agency has SME support in the UAT Lab to help address questions/issues with scripts and support defect triage.</p>	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					<p>a dedicated team of testers, they have executed nearly 3 times as many scripts as DHS and twice as many as OHHS with only 4 testers. Additionally, the quality, level of detail, in HSRI scripts along with SME support is a contributor to their performance.</p> <p>3. SME Support – All but one agency has support staff available to work alongside the DDI vendor in addressing questions/issues, regarding the application and/or script itself, and to address and speak to defects encountered during the testing day at triage. UAT will not be completed prior to Go-Live and provide a high degree of certainty that operations are acceptable if we continue to perform UAT with insufficient resources and low quality scripts. The current level of script development, testing and SME support provided by the State Agencies is putting successful UAT completion at high risk.</p>		
<u>192</u>	Gloria Darby	Testing	Quality	UAT environment performance and code deliveries require improvement	<p>The ability to conduct UAT is being negatively impacted by problems with the test environment and the delay of planned functionality in the code merge. Specific areas of concern are outlined below.</p> <p>1. UAT Environment and Performance - The environment has been unstable. Users are getting time out errors, environment has been slow (pages were taking almost 5 minutes to load), and the Citizen Portal was down for nearly 2 hours.</p> <p>2. Delivered Functionality and Quality – The 5/1 code merge did not include all the functionality that was planned and errors that were previously fixed returned. For example, APTC calculations were not included and Medicaid Renewal functionality is now planned for delivery in July. The quality of the code is</p>	<p>The State should require Deloitte to update the Code Merge plan to provide an accurate reporting of the functionality that will be delivered. The State should require Deloitte to establish a stable and consistent UAT environment.</p> <p>We recommend State Leadership require Deloitte to establish a consistent UAT environment that includes adequate space, networking and other requirements. Deloitte should commit to the Code Merge schedule and immediately report any potential changes.</p>	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					also in question since Java error messages resurfaced and 2 defects previously retested and closed have been reopened. The 5.0 code drop did not include all the functionality planned, but it does include much functionality into play that we need to be able to test, re-execute, and close. UAT cannot be successfully completed on schedule without significant improvements in the test environment stability to allow consistent testing performance. Additionally, repeated delays in delivery of functionality will continue to extend the UAT schedule and increase the risk of UAT completion on schedule to support Go-Live.		
<u>193</u>	Bobby Malhotra	Testing	Quality	Mock Pilot 3 Key Risks and Issues	<p>Approximately 282 defects were logged and 81 critical/high have not been resolved (118 total are unresolved). Major concerns include:</p> <ol style="list-style-type: none"> 1. All programs and interfaces planned for Mock Pilot 3 have not been executed and tested to date. For example, testing for RIW, GPA and SSP has not been conducted. 2. Eight interfaces were initially identified for end-to-end testing with the trading partners for Mock Pilot 3. There is minimal planning in place to test these interfaces in Pilot 3. 3. A number of incorrect or incomplete data conversion errors were observed in pilot environment. The conversion issues have impacted end-to-end testing in the Pilot. 4. Application error page issues have occurred that result in halting the application. Application error page is an indication that the code is not stable and exception handling framework is not developed with test driven approach and/or unit tested comprehensively. 5. Users roles and permissions are not set up correctly (e.g. workers did not have the 	<p>The State should require Deloitte to evaluate and fix all high and critical defects prior to starting Mock Pilot 4. All unresolved defects should be planned for resolution prior to Mock Pilot 4 exit. Recommendations include:</p> <ol style="list-style-type: none"> 1. FNS/CMS should be continuously notified on the current testing status of the Mock Pilot. The significance of each program should be provided to Deloitte to allow them to prioritize fixes accordingly. 2. Daily updates should be provided during the defect triage call on the interfaces testing. Batch run details should also be shared with the State on the regular basis. 3. Conversion issues found in Pilot 3 should be addressed during Mock 14 conversion. All agencies should be notified on the issues found and plan accordingly for Mock Pilot 4. The State should require Deloitte to validate the conversion prior to the Mock Pilot 4. 	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					appropriate privileges). This could result in a security issue if user roles and permissions matrix is not correctly implemented. Other issues being monitored include system performance, EBT card number format, scanning and printing, and testing and certification of notices. The occurrence of these problems during operations could impact operations.	4. The State should require Deloitte to perform a manual and automated code review prior to deploying code into production. Application Error Page exceptions should be prioritized and fixed. 5. Significant user roles and permissions testing should be conducted to assure that each user has access to their authorized screens. Failure to correctly authenticate and authorize each user could result in a security incident.	
<u>194</u>	Bobby Malhotra	Technical	Quality	Preliminary IV&V Security Assessment Report (SAR) Revealed Several Findings	The preliminary SAR, performed by the IV&V Team and based on MARS-E 1.0 controls and vulnerability testing on application code and the network/servers, revealed several findings. The findings were categorized as 29 High, 17 Moderate, and 4 Low. Per CMS/FNS guidance, Go-Live is not allowed with more than 5 High findings. Additionally, all High findings must be resolved within 30 days.	The State should ensure incorporating all the IV&V SAR findings into POAM prior 06/01 CMS submission. The State should require Deloitte to provide State and IV&V with their remediation plan. A plan to address all findings should be submitted for review. Ensure all highs are being addressed prior to Go-Live. Resolution of High findings should be scheduled prior to Go-Live and the priority levels should be determined by the State technology leads or CISO. Planning must also consider the potential findings in the Final SAR based on MARS-E 2.0 to support the 08/01 formal authority to connect (ATC).	High
<u>195</u>	Bobby Malhotra	Testing	Quality	Mock Pilot 4 Plan needs improvement	The IV&V team has several concerns regarding the draft Mock Pilot (MP) 4 plan. These concerns include: <ul style="list-style-type: none"> There is minimal planning to date, to execute each program in MP 4 before Go-Live. Number of cases to be executed during Pilot have not been finalized. Per MP 4 plan, only one case each day per tester 	The State should require Deloitte to schedule a meeting with all agencies, including Pilot leads, to address the concerns listed in the observation. Additionally, the plan should be reviewed to confirm all programs are successfully tested with production data in MP 4 before Go-Live. The MP 4 plan should be submitted to FNS/CMS for approval.	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					<p>have been proposed by Deloitte. Currently, average number of cases reviewed or administered by each worker is approximately eight per providence DHS office.</p> <ul style="list-style-type: none"> ▪ The interface testing and connectivity plan with the trading partners for the pilot is not documented. The MP 4 Plan states that interfaces will be testes in either Pilot or UAT. ▪ OHHS plans to test only one program (OMR) out of six plus programs in pilot. Big programs, such as RiteShare and KB, have not been successfully tested and/or completed in UAT to date. ▪ FNS/CMS may not be aware that a number of programs are will be excluded from the final Pilot. ▪ Lesson learned or challenges faced during Pilot 3 have not been documented or discussed with the State. ▪ There are no communications planned on lessons learned from MP 4 before Mock conversion 14 execution. ▪ Feedback/comments from FNS/CMS have not been explicitly reviewed and discussed for inclusion into the MP 4 plan. ▪ Training for all workers/testers prior to MP 4 will not be complete. ▪ To complete or retest potential work requests within two weeks will be a challenge before Go-Live. 		

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					Since MP 4 is only scheduled for 2 weeks, planning and contingencies must be thoroughly considered prior to the pilot start to minimize the risk of delays.		
196	Bill Riippi	Technical	Quality	Software Release Process Quality	<p>Recent releases of software builds have shown that the software processes on the project may not be following best practices. The SIT planned for the Build 5 Code was not completed (approximately 350 of 500 test cases were performed) prior to the code being released into UAT on 5/2/2016. The build had many defects, including the reoccurrence of defects that were resolved and tested in the previous software. Additionally, the Build 5 Code did not include all the planned functionality (e.g., APTC calculations and Medicaid Renewal were not included). A decision was made to release the partially tested code on 5/2/2016 for UAT, while the remaining functionality and SIT was completed. These updates were delivered early in the week of 5/16/2016. Early UAT results showed the presence of many defects, including the reoccurrence of defects that were previously resolved and tested.</p> <p>The release of software for UAT without SIT being completed results in UAT finding and reporting many defects that should have been resolved in SIT. Additionally, UAT is required to perform retest of each case after the defects are fixed.</p> <p>The number of defects found in UAT, including the reoccurrence of defects that were resolved and tested in the previous versions suggest incomplete regression testing and the lack of a configuration control process. While these problems currently negatively impact the UAT and Pilot testing prior to Go-Live, the continuation of low quality releases during</p>	<p>The State should ensure Deloitte’s software release policies and processes follow best practices and include acceptable development and schedule management, SIT processes and regression testing. The State should review the related software release requirements in the Deloitte contract to confirm they are acceptable and ensure that Deloitte’s operations are in compliance. If the current contract requirements are not acceptable, the State should consider updating the current contract requirements and ensure any future contracts (e.g. M&O, applicable Change Requests) include acceptable requirements.</p> <p>The State should require Deloitte to provide detailed reporting documentation to show that they are following the policies and processes. Related service level agreements may be considered to monitor compliance.</p>	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					maintenance and operation (M&O) may have an overall greater impact to RI UHIP clients.		

Table 3 – Observations and Recommendations Monitored

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
191	Gloria Darby	Testing	Schedule/Resource	UAT requires improved resources, test scripts, and Agency SME support	<p>The risk of UAT not being complete on schedule is high and trending toward critical. The daily status updates clearly show that UAT is not progressing at the level necessary to complete testing by the planned date. Major areas of risk are outlined below.</p> <ol style="list-style-type: none"> 1. Script Quality - EOHHS and DHS scripts lack the level of detail and necessary steps to allow the testers to complete execution of the script. To allow progress, minor changes to scripts have been made as long as it would not affect the outcome of the script. In such cases, the changes are modified within the tool (JAMA) so it can be tracked. However, there are cases where the script requires a total rewrite. Scripts are being written based on the flow of the screens within the application itself and not based on the FDD. Scripts are also being written and considered end-to-end where the first part of the script is from a previous and closed UAT. The continuation of the scripts lack the detail necessary to allow any tester to pick up with the script and continue execution. This restriction on who can execute a script will slow down productivity and hinder the ability to time travel as some scripts are time travel dependent. 2. Inconsistent Test Resources – A dedicated team of testers is required to conduct efficient 	<p>The State should assign resources with the required expertise and knowledge to review and develop quality scripts using the appropriate FDD. The State should assign a dedicated team of testers with the skills, commitment, and qualifications for the positions as defined by UAT management. Each agency should provide a dedicated SME onsite during UAT to support scriptwriters and testers. We recommend State Leadership require the agencies coordinate efforts and commit qualified resources that are dedicated to support UAT scripting and execution. It is also recommended that each agency has SME support in the UAT Lab to help address questions/issues with scripts and support defect triage.</p>	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					<p>UAT. Currently, the majority of testers are not consistently available or attend only part time. The quality of testers from different agencies also appears inconsistent. Some testers that have come in recently, required a lot of hand holding and lacked basic keyboard functionality (i.e. cut and paste, logging in, etc.) Although each agency is unique, this is a large discrepancy in performance. With HSRI having a dedicated team of testers, they have executed nearly 3 times as many scripts as DHS and twice as many as OHHS with only 4 testers. Additionally, the quality, level of detail, in HSRI scripts along with SME support is a contributor to their performance.</p> <p>3. SME Support – All but one agency has support staff available to work alongside the DDI vendor in addressing questions/issues, regarding the application and/or script itself, and to address and speak to defects encountered during the testing day at triage. UAT will not be completed prior to Go-Live and provide a high degree of certainty that operations are acceptable if we continue to perform UAT with insufficient resources and low quality scripts. The current level of script development, testing and SME support provided by the State Agencies is putting successful UAT completion at high risk.</p>		
193	Bobby Malhotra	Testing	Quality	Mock Pilot 3 Key Risks and Issues	<p>Approximately 282 defects were logged and 81 critical/high have not been resolved (118 total are unresolved). Major concerns include:</p> <ol style="list-style-type: none"> 1. All programs and interfaces planned for Mock Pilot 3 have not been executed and tested to date. For example, testing for RIW, GPA and SSP has not been conducted. 2. Eight interfaces were initially identified for end-to-end testing with the trading partners 	<p>The State should require Deloitte to evaluate and fix all high and critical defects prior to starting Mock Pilot 4. All unresolved defects should be planned for resolution prior to Mock Pilot 4 exit. Recommendations include:</p> <ol style="list-style-type: none"> 1. FNS/CMS should be continuously notified on the current testing status of the Mock Pilot. The significance of each 	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					<p>for Mock Pilot 3. There is minimal planning in place to test these interfaces in Pilot 3.</p> <p>3. A number of incorrect or incomplete data conversion errors were observed in pilot environment. The conversion issues have impacted end-to-end testing in the Pilot.</p> <p>4. Application error page issues have occurred that result in halting the application. Application error page is an indication that the code is not stable and exception handling framework is not developed with test driven approach and/or unit tested comprehensively.</p> <p>5. Users roles and permissions are not set up correctly (e.g. workers did not have the appropriate privileges). This could result in a security issue if user roles and permissions matrix is not correctly implemented.</p> <p>Other issues being monitored include system performance, EBT card number format, scanning and printing, and testing and certification of notices. The occurrence of these problems during operations could impact operations.</p>	<p>program should be provided to Deloitte to allow them to prioritize fixes accordingly.</p> <p>2. Daily updates should be provided during the defect triage call on the interfaces testing. Batch run details should also be shared with the State on the regular basis.</p> <p>3. Conversion issues found in Pilot 3 should be addressed during Mock 14 conversion. All agencies should be notified on the issues found and plan accordingly for Mock Pilot 4. The State should require Deloitte to validate the conversion prior to the Mock Pilot 4.</p> <p>4. The State should require Deloitte to perform a manual and automated code review prior to deploying code into production. Application Error Page exceptions should be prioritized and fixed.</p> <p>5. Significant user roles and permissions testing should be conducted to assure that each user has access to their authorized screens. Failure to correctly authenticate and authorize each user could result in a security incident.</p>	
192	Gloria Darby	Testing	Quality	UAT environment performance and code deliveries require improvement	<p>On March 2, 2016, an Implementation Reset meeting was held to help manage and better organize all activities required for a successful implementation. The timelines and activities were documented and approved. The dates and activities identified in the Thread have been a constant moving target with deadlines slipping and deliverables not being met. Major areas of concern are:</p> <p>1. UAT Environment and Performance - The environment has been unstable. Users are getting time out errors, environment has been</p>	<p>The State should require Deloitte to update the Code Merge plan to provide an accurate reporting of the functionality that will be delivered. The State should require Deloitte to establish a stable and consistent UAT environment.</p> <p>We recommend State Leadership require Deloitte to establish a consistent UAT environment that includes adequate space, networking and other requirements. Deloitte</p>	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					<p>slow (pages were taking almost 5 minutes to load), and the Citizen Portal was down for nearly 2 hours.</p> <p>2. Delivered Functionality and Quality – The 5/1 code merge did not include all the functionality that was planned. For example, APTC calculations were not included and Medicaid Renewal functionality is now planned for delivery in July. The quality of the code is also in question since Java error messages resurfaced and 2 defects previously retested and closed have been reopened.</p> <p>The 5.0 code drop did not include all the functionality planned, but it does include much functionality into play that we need to be able to test, re-execute, and close. UAT cannot be successfully completed on schedule without significant improvements in the test environment stability to allow consistent testing performance. Additionally, repeated delays in delivery of functionality will continue to extend the UAT schedule and increase the risk of UAT completion on schedule to support Go-Live.</p>	<p>should commit to the Code Merge schedule and immediately report any potential changes.</p>	
128	Bobby Malhotra	Technical	Quality	HIX Application Framework Still Requires Data Synchronization (Duplication) - #411	<p>What: The HIX application framework still requires that the data which is directly accessed by the application exists in the HIX database schema (a copy) even though with the new single database design the master “source of truth” is considered to be the IES database schema.</p> <p>Implications: Storing copies of the data and synchronizing changes back and forth incurs some risk of sync failures. In one specific scenario where data has been saved in the citizen portal without submitting, changes made in the worker portal can synchronize back and overlay the citizen-entered data,</p>	<p>The State Tech Team and Deloitte should collaboratively review the design and implementation to ensure that synchronization failures will be automatically retried and processes are in place to escalate any ongoing failures. Ensure that all failure scenarios are thoroughly tested.</p> <p>Ensure sufficient negative testing is performed (such as having a DBA lock a table to block updates) and validated for all anticipated and potential synchronization failure scenarios.</p> <p>Ensure fatal conditions at runtime are</p>	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					causing data loss.	properly logged and escalated to mutually agreed contacts with the support team and the State. In addition to handling synchronization exceptions as they happen, perform periodic validations to ensure the data stays properly synchronized.	
167	Bobby Malhotra	Technical	Quality	Data Integrity	<p>The transactional schema IE_APP_ONLINE alone includes over 2,600 tables/views including the audit tables), rough counts of parent/child relationships via foreign keys accounts for less than 1,000 tables. The audit tables (with names ending in _A) are not expected to have foreign keys by design, but that only explains about 500 of them leaving another 500 for further review.</p> <p>Based on table counts, there seem to be hundreds of transaction tables that do not have any foreign key relationships at all. Unless all of these tables turn out to be truly “disconnected” for valid reasons, there may be significant omissions in the referential integrity (RI). Missing RI can allow invalid values to be populated and subsequently these rows may be missed in queries that perform a join on what may be expected to be firm relationship with another table. Without RI to preserve a relationship, a value that is used by a table which is missing the foreign key definition can have its row deleted in the parent table with no warning or error. Although the application may be programmed in such a way as to enforce the relationships via code, this approach does not support detection when data is manually manipulated as part of a data fix.</p>	<p>The recommendation is to perform a thorough review of the tables that do not have any RI constraints to see why so many such tables exist. Further, an analysis of all tables should be performed to ensure that no other foreign keys are missing. This can likely be expedited somewhat based on column naming conventions to identify columns holding common keys. In the event that columns are not utilizing RI for intentional reasons such as runtime performance issues or the requirement to hold data that has not yet passed validation, a systematic approach to documenting these as column comments in the database and/or notes in the data dictionary is recommended. These decisions and comments should be shared beyond the development team to include users that may be performing support activities including state staff.</p>	High
165	Bobby Malhotra	Technical	Quality	UHIP Security Certificates	A process has not been established to track the validity (e.g. expiration dates) of the security certificates and other types of	The State should require Deloitte to develop a process to manage and track the validity of all certificates used in the	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
				Not Being Tracked	certificates used/installed within UHIP system. Without a process and tool to manage these certificates, they may unexpectedly expire and result in interruption of the services if not renewed on time.	UHIP system (Customer portal, training environment, testing environment, phase 2, DR site). Certification reporting process should be prepared and consistently reported to the State.	
176	Bobby Malhotra	Technical	Scope	UHIP System Change Updates to CMS - #367	For Authority to Connect, all the federal compliance documents have to be submitted to the CMS prior to GO-Live, July 2016. CMS has required the State to provide the list of all the major areas, which will be changed or modified in the system with the new centralized database approach (that will share the functionalities between citizen and the worker portal). As per CMS guidance, any changes that require data conversions/migrations i.e. staging environment have to be MARS-e compliant, the same document and third-party test assessment will be required of that environment for CMS approval.	The State should ask Deloitte to update the architecture document that should contain all the areas to be refactored, modified, and changed in the new database approach; the updates should include all the updated information at least on all the significant areas listed by CMS. The State Security Team with Deloitte should schedule a meeting to discuss the changes with CMS. The State security team with Deloitte security team should schedule closely work with CMS to discuss the changes. Security documents for ATC should also be timely discussed with the State and CMS	High
189	Bobby Malhotra	Technical	Quality	System Resource Allocations	The production topology has not been finalized. Based on the draft production topology, significantly more application servers have been added. Based on the draft production topology, significantly more Mule Enterprise Service Bus (ESB) servers, application servers, etc. have been added. Performance testing which is entirely based on the finalized design is delayed.	The State should require Deloitte to immediately finalize the infrastructure topology. The capacity plan should be updated and published to the State. All required VMs for performance testing environment should be immediately created for the Release 7 performance/load test. Identify any concerns over points of failure, performance bottlenecks, hardware and software initial purchasing/licensing costs plus corresponding annual budgetary impact for maintenance fees.	High
174	Gloria Darby	Testing	Quality	Cycle 4 FDDs Impacted by Code Merge	Deloitte has not been able to identify the consolidated list of what FDDs will require updates as a part of the code merge process. Phase 1 functionality being merged into Phase	The State should require Deloitte to update all FDDs based on changes necessitated by the code merge. Phase 1 functionality being merged into Phase	High

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					2 has not been documented or provided to the UAT support team to facilitate script writing. Not having accurate and current FDDs poses the risk that some cases will not reflect exactly what the tester will see during testing.	2 should be documented in the appropriate FDDs, the State along with the vendors contracted to write test cases should be provided with a list of what deliverables will be updated.	
178	Bobby Malhotra	Technical	Quality	HIX/IE Data Replication to the Disaster Recovery (DR) Site	Data replication plan, schedule, and quantity of data from HIX/IE to Sacramento site not yet finalized. NTT Data, sub-contractor for Deloitte, replaced their data replication software with Zerto Virtual Replication software (Zerto). The HSRI data replication between San Jose and Sacramento took longer than expected. It took one day to replicate 100 GB of data. Data replication, if not appropriately planned, could delay the completion of data replication before Go-live on July 12, 2016.	<ol style="list-style-type: none"> 1. Require Deloitte to provide a plan with details for the go-live data replication process, schedule, and quantity of data. 2. Verify the data replicated is consistent with the source data. 3. Evaluate the Zerto tool to assure that it is robust and capable of efficiently replicating the HIX/IE data. 	High
182	Gloria Darby	Testing	Schedule/Resource	Risk of Completing UAT On Time	Deloitte is providing defect fixes and/or placing defects in a ready for test status at a pace that cannot be supported by UAT. With the number of test scripts and the limited number of resources, retesting the defects and verifying the validity of the fix is not possible without further putting the schedule of new case execution at risk.	The State should consider adding additional staff to focus on the retest efforts. This could minimize the impact of pushing actual execution off track.	High
183	Bobby Malhotra	Testing	Quality	Safeguarding Sensitive Personally Identifiable Information (PII) During Testing	PII information was included in a screen print as part of the problem description entered in the defect management tool (JIRA) with the active username and passwords for supporting Mock Pilot activities. Deloitte USI/Offshore is accessing JIRA and has access to the PII data while fixing and/or addressing the defect/ticket logged during Pilot. Disclosing PII in such a manner is against the security guidelines set up by federal partners. Lost or compromised PII could result in substantial harm to an individual.	Use of production data used in Mock Pilot #3 and for other M&O testing activities, as well as potentially offshore for support, should be mutually agreed upon between State and Deloitte. Security controls compliant and guidance with NIST and CMS/MARS-E 2.0 should be put in place to ensure adequate accessing and handling of PII while testing or debugging work requests. Ensure appropriate HIPAA training is provided to the implementation/testing group before accessing the production data.	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
169	William Riippi	Schedule	Schedule/Resource	Release 7 Code Merge Schedule/Plan Revised	Deloitte is adding two code merges (one on 4/15 and an optional one on 6/15) to the four initially planned (2/1, 4/1, 5/1, and 6/1). It is our understanding that one reason for the code merges is to allow for an incremental delivery of functionality to support UAT. However, additional testing is required to assure that the new functionality does not affect previously tested functionality. The unintended consequences is additional defects, limited test coverage, limited regression testing, extended UAT (potentially delaying UAT exit), and jeopardizing the Go-Live schedule.	The State should: a. Require Deloitte to provide clarification on the specific functionality included in each code merge. Share this information with UAT to support test case development, test case execution, and resource needs. b. Require Deloitte to assure there is a plan to expedite defect resolution that supports UAT and allows for timely UAT exit before the scheduled Go Live date.	High
158	Bobby Malhotra	Technical	Scope	Consolidated Database Design – Security Assessment	During the development of the Database Consolidation Readiness Assessment Report, four of the security areas evaluated in the database implementation had the following issues identified. This detailed list was noted in the original report issued on 01/29/16. #129/412 (High/High) – Although the Oracle databases are using transparent data encryption for data at rest, other application layers including application servers, ETL tools, and secure FTP landing zones need to be reviewed for any storage of sensitive data. #132/415 (Medium/Medium) – The HIX/IES single sign-on session management design is not finalized and tested. #141/425 (Low/Low) – Access control policies and procedures for direct database access are not formalized in writing. Based on current information, the overall Probability and Impact ratings are both High. Implications: Sensitive data stored on disk (at rest) in unencrypted format is at risk for access from remote access over the network, at the operating system level, or physical access to	The State should ask Deloitte to identify all infrastructure platforms and locations where sensitive data is ever at rest on disk and what options are in place or available to ensure this data is encrypted. The State should request Deloitte’s finalized session management design including how the risk of timeout and potential data loss will be mitigated. The State should evaluate the roles and responsibilities where direct database access is required and formalize processes and procedures to authorize and request additions, changes, and deletions of database access for staff. The State should consider the long-term support model and projected separation of roles and responsibilities that may be desired or needed down the road, if any. Technological alternatives exist to encrypt data at rest via disk partition encryption, encrypted file systems, and	High

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					<p>the drives themselves.</p> <p>Session timeout within one application (e.g., IES) while user actions are focused in the other (e.g., HIX) could potentially result in data loss. Lack of formalized access controls may result in improper authorization or incomplete audit trails for access to the database.</p>	<p>third-party secure FTP packages that transparently encrypt individual files before storing them on disk. The State security team should collaborate with Deloitte to ensure all data at rest is properly protected.</p> <p>The State should incorporate database access controls with the established controls for application-specific security already in place.</p>	
168	Bobby Malhotra	Technical	Quality	Data Conflicts found during the InRhodes and HIX data conversion to RIBridges.	<p>During the conversion process, a significant number of data conflicts (e.g. different employment, income, address, etc.) have been found in the records of individuals during the InRhodes and HIX data conversion to RIBridges. The number of conflicts reported to date is already large and conversion is not complete. The exact plan for resolving the conflicts is still in work and manual effort may be considered to resolve the conflicts.</p> <p>These conflicts have to be resolved prior to the execution of any major batch and/or prior to go-live. The impact of the data selected must be carefully considered with regard to subsequent eligibility determination in the new system. If data is selected that is not current and incorrect, individuals who are currently eligible for benefits may be denied.</p>	<p>State should require Deloitte to provide status reports, including results of specific conversion conflicts identified (e.g. the number and types of conflicts). A plan should be developed that includes a timely approach to fix these conflicts prior to go-live. If the approach includes manual intervention, acceptable resource plans should be included. Mitigation plans should be considered due to the risk of individuals who may be eligible for benefits being denied due to incorrect data conversion.</p>	High
177	Bobby Malhotra	Technical	Scope	CMS Mandated Deliverable Related to Go-Live	<p>CMS requires the State of Rhode Island (State) to submit updated documents drawn, per mutual agreement, from the Information Technology Enterprise Life Cycle (IT ELC) document.</p>	<p>The State shall provide the documents per mutually agreed upon schedule. The list of documents include, but not limited to, the concept of operation (ConOps), architecture diagrams, technical architecture diagrams, system security plans, IV&V reports, etc. The State shall upload all relevant documents in CALT for CMS review per completion.</p>	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
110	Bobby Malhotra	Technical	Schedule/Resource	Interfaces Schedule for Release 7 - #387	Several interfaces require reach out to the source with considerable work around. Many interfaces are under SIT or development. There are 15 trading interfaces marked as off track as of 4/15/16. Several (~30) interfaces were initially missed and included in the list during planning phase of the UHIP project, these interfaces can significantly impact overall functional productivity if not ready by Go-live date.	A plan is required to get on track. State should insist Deloitte to provide definitive timeline and the plan of interfaces testing for interfaces readiness. DUA should be signed between the agencies if required	High
181	Bobby Malhotra	Technical	Schedule/Resource	Limited Production Window to Complete Final Conversion	Mock Conversion is scheduled for completion in 5 days prior to Go-Live. However, the production window timeframe for the final conversion is scheduled for 3 days. The timeline and number of days allocated to complete the final conversion appears to be at high risk and the Go-Live schedule may be impacted. There will be minimal time to fix or address any issues during conversion within this limited timeframe.	The State and Deloitte should plan to add a buffer of time for the production conversion. If required, add CPU and RAM for the conversion. State should require Deloitte to finalize the infrastructure/environment capacity topology. Additionally, the mitigation plan should be developed in conjunction with all the agencies.	High
170	Bobby Malhotra	Technical	Quality	Performance Testing for Release 7	Deloitte has initiated Release 7 performance testing without the submission and approval of a performance-testing plan. A plan must be reviewed and approved by the State is required before the results can be validated. Performance tests scheduled (April, May and June) to reevaluate the production capacity should consistently monitored to make sure the results mimics the production behavior.	The batches should be tested/examined utilizing a database identical in size to Production in order to gauge performance and evaluate its efficiency and stability. Consider simulating a production level of activity and load to observe the system performance under heavy load, in a scaled-down environment. Conduct sessions with the State technical team to ensure environment capabilities.	High
180	Gloria Darby	Testing	Quality	Cycle 4 UAT to Begin with Open Critical and High Defects from Cycle 3	Due to the delay in exiting UAT for Cycle 3, Cycle 4 UAT will begin with open critical and high defects remaining from Cycle 3. Although these defects are expected to be addressed during the first few days of Cycle 4, both UAT cycles will be running in parallel for a period.	State should ensure Deloitte continues to address the critical and high defects so they can be retested in UAT.	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
109	Mike Tully	Testing	Quality	Scripting Efforts for Release 7 - #386	The quality of some the UAT test scripts created to date will not thoroughly test the system. For example, Long Term Care does not account for time travel - (application pending resource or income information, medical documentation needed for LOC review, the actual LOC review, etc.), changes made to an existing, ongoing case - both stand alone and with SNAP, Plan of Care (which could be entered after the initial LTSS/HCBS authorization - once agency is found) this is needed to generate the Cost of Care in Wrap up, CSRA and how it is integrated into the LTSS/HCBS application, Transfer Penalties and impacts of the various types of assets and how joint ownership with non-hh members impact eligibility, etc. MMIS transactions for all LTSS/HCBS (MMIS transactions for 1E, 1F, 1G, 1U would also be generated depending on the LOC and living arrangement.)	The State should review the functionality within each agency and ensure the scenarios and level of detail will sufficiently test the business functionality, all test scenarios should be vetted for accuracy and thoroughness before being executed.	High
185	Bobby Malhotra	Technical	Scope	Several Interfaces not Initially Identified	Deloitte conducted the interfaces reconciliation with the State to determine if there are any gaps, or any existing interfaces, that have been missed during initial period of the project. To date, significant number of gaps have been identified. There is a high risk pertaining to such interfaces, as most of them identified during reconciliation will not be ready by Go-live.	The reconciliation process should be completed at earliest possible to determine the interface gaps, involvement of all the agencies is critical. The State should require Deloitte to compile the list of gaps and accelerate the development, testing process so it can be successfully tested in UAT before deploying in production.	High
111	Bobby Malhotra	Requirements	Quality	Existing Plan Deliverables not Updated and Revised - #388	The system architecture, DR plan, capacity plan, database development, configuration plan, and others have not been updated with the new Phase 2 single database design. These deliverables will be required during the maintenance period and to support future system audits on the UHIP system. Additionally, the total number of environments, servers, and licensed software installations may be in excess of original	The State should acknowledge and encourage Deloitte to update the technology and database related existing deliverables. The State should identify all essential technical documents for Deloitte to update to reflect the single database design. The State should request a Software Licensing Analysis and True-Up from Deloitte to provide an audit and	High

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					planned and licensed quantities which could incur additional licensing costs.	balancing of all ordered versus used software to ensure compliance with licensing terms.	
158	Bobby Malhotra	Technical	Scope	Consolidated Database Design – Security Assessment	<p>During the development of the Database Consolidation Readiness Assessment Report, four of the security areas evaluated in the database implementation had the following issues identified. This detailed list was noted in the original report issued on 01/29/16.</p> <p>#129/412 (High/High) – Although the Oracle databases are using transparent data encryption for data at rest, other application layers including application servers, ETL tools, and secure FTP landing zones need to be reviewed for any storage of sensitive data.</p> <p>#132/415 (Medium/Medium) – The HIX/IES single sign-on session management design is not finalized and tested.</p> <p>#141/425 (Low/Low) – Access control policies and procedures for direct database access are not formalized in writing.</p> <p>Based on current information, the overall Probability and Impact ratings are both High.</p> <p>Implications: Sensitive data stored on disk (at rest) in unencrypted format is at risk for access from remote access over the network, at the operating system level, or physical access to the drives themselves.</p> <p>Session timeout within one application (e.g., IES) while user actions are focused in the other (e.g., HIX) could potentially result in data loss. Lack of formalized access controls may result in improper authorization or incomplete audit trails for access to the database.</p>	<p>The State should ask Deloitte to identify all infrastructure platforms and locations where sensitive data is ever at rest on disk and what options are in place or available to ensure this data is encrypted.</p> <p>The State should request Deloitte’s finalized session management design including how the risk of timeout and potential data loss will be mitigated. The State should evaluate the roles and responsibilities where direct database access is required and formalize processes and procedures to authorize and request additions, changes, and deletions of database access for staff. The State should consider the long-term support model and projected separation of roles and responsibilities that may be desired or needed down the road, if any.</p> <p>Technological alternatives exist to encrypt data at rest via disk partition encryption, encrypted file systems, and third-party secure FTP packages that transparently encrypt individual files before storing them on disk. The State security team should collaborate with Deloitte to ensure all data at rest is properly protected.</p> <p>The State should incorporate database access controls with the established controls for application-specific security already in place.</p>	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
96	Bobby Malhotra	Technical	Schedule/Resource	2015 Disaster Recovery Testing - #366	The 2015 DR plan has not been completed. Viewing disaster recovery at an enterprise level may reveal missing or critical interdependencies. In addition, a complete business continuity plan has not been finalized.	Recommend creating a 2015 Disaster Recovery (DR) Plan. Deloitte should identify the point of contact from NTT and Deloitte's Infrastructure team for all DR related activities and finalized a date for testing. It is also recommended that Deloitte create and maintain a Disaster Recovery Tracker to track DR plans across vendors and agencies.	High
177	Bobby Malhotra	Technical	Scope	CMS Mandated Deliverable Related to Go-Live	CMS requires the State of Rhode Island (State) to submit updated documents drawn, per mutual agreement, from the Information Technology Enterprise Life Cycle (IT ELC) document.	The State shall provide the documents per mutually agreed upon schedule. The list of documents include, but not limited to, the concept of operation (ConOps), architecture diagrams, technical architecture diagrams, system security plans, IV&V reports, etc. The State shall upload all relevant documents in CALT for CMS review per completion.	High
118	Bobby Malhotra	Technical	Quality	Network Bandwidth Testing Readiness - #396	Network Bandwidth Testing Readiness UHIP network traffic analysis and readiness for RIBridges go-live for 07/2016 have been initiated by the State. There are several areas identified that require high attention and need inputs from various agencies.	Before using EDM/Scanners in production, Deloitte should determine the size, type, and quantity of documents that will be uploaded or exchanged/transferred via the network by each location. The scanner usage and user load should be divided by the location (e.g. Providence, Cranston, New port etc.). Deloitte/NTT Data should provide firewall specs to the State for further enhancement on the State's firewall size.	High
170	Bobby Malhotra	Technical	Quality	Performance Testing for Release 7	Deloitte has initiated Release 7 performance testing without the submission and approval of a performance-testing plan. A plan must be reviewed and approved by the State is required before the results can be validated. Performance tests scheduled (April, May and June) to reevaluate the production	The batches should be tested/examined utilizing a database identical in size to Production in order to gauge performance and evaluate its efficiency and stability. Consider simulating a production level of activity and load to observe the system performance under	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					capacity should consistently monitored to make sure the results mimics the production behavior.	heavy load, in a scaled-down environment. Conduct sessions with the State technical team to ensure environment capabilities.	
102	Bobby Malhotra	Technical	Quality	Integrated Eligibility Services Code Quality based on Bi-Monthly Code Review 6 - #377	The random sample was selected from recently modified modules and the fifth code review was used for the manual code review and automated code review. The sample revealed several issues that fall into two basic areas of review 1) Comments and 2) Organization and Error Handling. However, all issues remained from the fifth code review with very few deficiencies remediated.	Based on the issues found and recommendations, the following steps are recommended for the UHIP team to consider: Provide the code quality checklist to the development team and closely monitor if they make sure to RUN Sonar and complete peer code reviews before checking in class to the repository. Continue making efforts to improve the code quality and code as per best industry standards. Every developer must run the SONAR report during development and during defect repair. Code should be SONAR compliant for critical and blockers. Reduce the SONAR major issues within each release.	High
103	Bobby Malhotra	Technical	Quality	Health Insurance Exchange Code Quality based on Bi- Monthly Code Review 7 - #378	The random sample that CSG selected from recently modified modules and the fourth code review was used for the manual code review. The sample revealed several issues that falls into three basic areas of review 1) Comments 2) Organization 3) Error Handling. Although there were several issues identified during the code review, improvement was observed during this review.	Based on the issues found and recommendations, the following steps are recommended for the UHIP team to consider: a) Reduce the SONAR major issues within each release. b) Peer code reviews are a standard approach and are mandatory. c) Discuss the approach for new single database design; conduct meetings with CSG and the State to provide more insight on the integrated development to inform all the areas of the code which are planned to be refactored. d) Provide the code quality checklist to the development team and closely monitor if they make sure to RUN Sonar and complete peer code reviews before checking in class to the repository. e) Continue making efforts	High

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
						to improve the code quality and code as per best industry standards.	
119	Bobby Malhotra	Technical	Quality	HIX/IE Downtime Dependency - #397	The single database model will have a common physical database for both the Phase 1 Citizen Portal and Phase 2 Worker Portal systems. With the centralization of common systems, features will be maintained in the Phase 2 Worker Portal data source. During "HIX/IES" system downtime, both applications will go down.	Determine if the customer interface will be available during IES downtime, how and where data entered by the customer will be stored, and that data will not be lost. Identify if there will be a disaster solution when the IES is down. The State should require Deloitte to document different scenarios when the HIX portal will be affected, due to IES downtime. This may also impact batch execution as well as supporting the HIX portal.	Medium
98	Gloria Darby	Quality Assurance	Quality	Section 508 Compliance (Accessibility) Testing - #368	Section 508 requires that all website content be accessible to people with disabilities. It was inadvertently discovered that a list of codes were being excluded from Deloitte's accessibility testing, and the list was not properly documented within any deliverables. This prompted Deloitte to update the Phase 1 Detailed Test Plan (outside of the Change Management process) with the list of exclusions. Since accessibility is not tested in UAT, the State and CSG require Deloitte to provide a letter of attestation that accessibility testing has been completed; however, this does not equate to the true user experience. The State could face serious fines if it is later discovered that the application is not truly 508 compliant and end-users with disabilities are not able to fully utilize the system.	CSG recommends the State identify testers who are visually or hearing impaired to test the accessibility functionality.	Medium
164	Bobby Malhotra	Communications	Quality	Minimal Visibility to Phase 2 Development and Testing	Deloitte has kept very minimal communication with State on development and system integration testing efforts. Without notifying State or discussing the feasibility of any existing implemented functionality designs are getting modified.	The state should require Deloitte to set up time involving all agencies to discuss the development and SIT efforts. Deloitte should immediately provide detailed demonstrations to the State to obtain a better understanding of the	Medium

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					Phase 2 with Contact Center Integration enhancements couples all the agencies to a single source of truth “Single database”, any change to the existing functionality due to design or system feasibility, issue if not well communicated, depending on the significance of the change may cause or delay EOHHS, Exchange and/or DHS in user acceptance testing, which may further impact the Go-Live schedule.	any significant design change other than Claimed SSN, citizens to retrieve their eligibility/enrollment data from the citizen portal instead of RIBridges. The state should require Deloitte to submit results with detailed exit criteria of SIT and smoke testing with the trading partners prior deploying into UAT	
186	Bill Riippi	Finance	Cost	Potential Increase in Project Expenditures	<p>Project expenditures are at risk to increase if a number of the observations identified to impact the project schedule, resources, quality and scope are realized. Mitigation factors being considered may also result in increased costs. Selected events and observations that raise this concern include:</p> <ul style="list-style-type: none"> • Completion of UAT on schedule to support Go-Live is at risk. Increasing the number of workstations and testers is currently being considered to mitigate the risk (Reference Observations 109, 121, 182 and Project Risk 67). Additionally, performing UAT on Saturday and extending the schedule are being considered. • Approximately 50% of the initially identified interfaces are behind schedule and considered High Risk as of 4/15/2016. Other required interfaces were initially missed and are being evaluated (Reference Observations 110, 185, 155). • The Release 7 development schedule was previously revised to add 2 additional code merges to the original 4 planned (Reference Observation 169). Any schedule revision beyond this date will significantly increase the risk to meet the Go-Live date. Mitigation being considered is to delay selected functionality 	The State should develop potential scenarios that may be required to mitigate delays and estimate resulting expenditures. Evaluate the current project budget and make plans for potential variance. If funding is not currently available, plans for additional funds should be considered.	Medium

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					into September. To the IV&V Team’s knowledge, there are no CRs pending that substantially impact the budget as this time. However, the CRs that may result from extending the schedule, adding resources, and adding scope to mitigate delays are likely to result in significant increased expenditures.		
100	Bobby Malhotra	Requirements	Quality	Phase 2 - Requirement Traceability Matrix - #371	The current RTM partially supports the new centralized database approach for the UHIP architecture framework. The citizen and the worker portal applications will be integrated with shared functionalities. This will be a significant change to existing architecture, including security and shared application frameworks. Without an updated RTM it will be difficult for the State to interpret and keep track of the requirements. The RTM helps to create a downstream and upstream flow of connecting software requirements to product requirements.	As changes are implemented, Deloitte and the State should perform the required updates to the RTM. The RTM will help ensure that the project requirements are met as well as track all changes made to the system.	Medium
154	Bobby Malhotra	Technical	Quality	Phase 2 Data Model Design Modified without the State Approval	The proposed data model design “Citizen Portal to read the common data from Worker Portal” changed without State approval. Eligibility data will be loaded back to staging database. Moreover, citizens will retrieve their eligibility/enrollment data from the citizen portal instead of RIBridges. The approach was to reduce the volume of data exchange between both the systems, remove the data redundancy, to have the person and account level information devoid of the common services (eligibility, task, notices) data.	Deloitte should provide detailed demonstration to the State to obtain a better understanding of the significant design change. Any change to the design after the deliverable approval should be discussed with State stakeholders prior to implementing or prior to Go-Live on July 2016.	Medium
184	Bobby Malhotra	Technical	Scope	Privacy and Procedures Readiness for Authority To Connect (ATC)	There are eight more Privacy Control Families added in MARS-E 2.0 on top existing MARS-E 1.0 policies. Existing, all, the policies based on MARS-E 1.0 have also not been completed and signed off by the State, to date.	State should expedite the process to create and/or complete the privacy and other policies based on both MARS-E 1.0, 2.0. If not completed on time could impact the ATC. Any concerns	Medium

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					Policies and Procedures based on MARS-E 1.0 if not signed and in place prior to Go-Live will result in a finding in POAM and further impact the schedule based on the priority set up by CMS. Policies and procedures based on MARS-E 2.0 if not in place can impact the Authority to Connect (ATC), 8/1/16	pertaining to the policies should be brought to CMS and State leadership attention.	
123	Bobby Malhotra	Technical	Scope	Save and Exit Functionality in HIX after Go-Live - #402	The HIX will not accommodate existing users to resubmit an application during the change reporting process. Currently, a user can change their circumstances and exit from the account after saving the data using the 'Save/Exit' functionality. After go-live in 07/2016, batches will be running on the data, maintained within RIBridges tables and not on the data stored within the HIX account. Therefore, information saved without resubmitting the application using the 'SAVE/EXIT' functionality will never sync data to RI Bridges. This will impact eligibility status, based on the latest data provided by the customer without submitting the application. This also applies to address changes made by a user.	It is recommended the State require Deloitte to provide details about the synchronization mechanism on these conditions. If there is not a synchronization plan for the identified scenarios, then an alternate plan or discussions about handling batches should be initiated.	Medium
116	Bobby Malhotra	Technical	Quality	UHIP Infrastructure - Open Source Products - #394	UHIP infrastructure uses open source products to support major pieces of architecture in the production environment. Lack of commercial support available for majority of the open source products, senior technical expertise are often required to maintain/debug such products	The open source products should be researched and analyzed to determine the level of risk exposure, if any, that is being imposed by using these products. An example is Mule ESB, Apache ActiveMQ.	Medium
172	Bobby Malhotra	Technical	Scope	Annual Penetration Test Not Conducted	Deloitte is contracted to perform a network penetration test every year with the results to be published to the State within 14 days of completion. The penetration test results are important and represent the potential vulnerabilities in the system and the associated security risks. Without the test results and identified risks, an evaluation of the system vulnerabilities cannot be performed.	The State should require Deloitte to immediately conduct the network penetration test and submit the results to the State for review within 14 days of completion.	Medium

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
121	Gloria Darby	Testing	Schedule/Resource	Phase 1 Testing Resources for Release 7 - #399	Due to staffing changes and vendor changes at the Contact Center, most of the experienced testers from HSRI will not be available to support the HSRI portion of UAT. This experience is crucial to successful testing and allowed the Phase 1 UAT team to "hit the ground running." Having to bring on new testers will require onboarding and the ability to "hit the ground running" will be null and void.	It is suggested that the State work with the new vendor to be able to utilize those testers that may have remained with the Contact Center for UAT.	Medium
179	Bobby Malhotra	Technical	Quality	Security - User Role and Permission Matrix	The single database approach consolidated the HIX/IE permission matrix. This allows for the management of all user roles and the permission matrix within IES/RIBridges. Significant testing is required to assure that each user has access to their authorized screens. Failure to correctly authenticate and authorize each user could result in a security incident post. In addition, it may lead to permission issues with the application approaching Go-Live.	i) Require Deloitte to provide the SIT scripts, with the results, to validate appropriate end-to-end user role-based testing. ii) Require the execution of the appropriately documented test plan and UAT scripts and during UAT and the pilot. iii) Require each Agency to assure the successful testing and verification of all the roles per their business rules before Go-Live.	Medium
155	Bobby Malhotra	Technical	Scope	Data feed from RIBridges to Data Warehouse	The daily batch feed of specified data fields from RIBridges to the Human Services Data Warehouse (HSDW) has not been developed by Deloitte. If the batch feed is not developed, clinical eligibility will not be able to be determined by the OMR. According to original requirements, Deloitte is required to create a daily batch feed of specified data fields from RIBridges to the Human Services Data Warehouse (HSDW), with the data to be exported determined through analysis and design to be performed by the Deloitte. To date, Deloitte has not developed a daily data feed from RIBridges to the HSDW. The Office of Medical Review (OMR) currently uses the Customer Service Management (CSM) tool to determine clinical eligibility. The CSM	The State should ensure that Deloitte is working with HP to develop a daily batch feed for the HSDW prior to go live. Weekly meetings with a detailed plan should be scheduled between the State, Deloitte and HP. If the batch cannot be developed prior to go live, an alternate plan should be discussed to ensure that OMR would have current data for clinical eligibility determinations.	Medium

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					interfaces with data warehouse real-time to gather eligibility data of customers applying for benefits. Without a daily data feed from RIBridges, the Office of Medical Review (OMR) will be significantly impacted after go live. Clinical eligibility determinations will be based on outdated data.		
125	Mike Tully	Testing	Scope	Backlog of Defects for State Review - #404	The backlog of defects that need to be reviewed between Deloitte and the State for potential change requests has not been completed. The weekly review sessions have been de-prioritized by Deloitte and often cover internal tasks and items that had been reviewed in prior sessions.	Deloitte should review the list prior to meeting with the State to remove internal items and defects that have been reviewed previously or are already included in updated design sessions. Deloitte and State resources should agree on a dedicated schedule for reviewing the backlog until it is completed.	Medium
95	Bobby Malhotra	Technical	Scope	MFA for Phase 2 Remote Access - #357	The IRS asked the State to implement MFA for IES worker portal. UHIP/IES Worker Portal will only be accessible from within the State's network. The IRS guidelines state that the individual accessing system containing FTI from a remote location requires an encrypted modem and/or Virtual Private Network. Additionally, two-factor authentication - cryptographic identification device, token, is required whenever FTI is being accessed from an alternate work location. The IRS has also stated that FTI can only be viewed using State provided laptop or workstation.	Business approval from all the agencies is immediately required for the remote access. The State must determine how this implementation needs will be funded. State and Deloitte must work together to find out if something can be leveraged from the Phase 1 MFA implementation. Gaps and the requirement must be documented instantaneously so that the scope of work can be included in APD.	Medium
99	Bobby Malhotra	Technical	Scope	HIX Application Vulnerability Testing - #369	Deloitte is currently conducting security testing within the HIX application. However, the security test plan and the scope have not been shared with the State Security team. Deloitte has not made the State aware of what areas of the application where security scans are planned or have been conducted. Nor does the State have insight into any information on when and what level of defects was found	It is recommended that Deloitte inform the State Security team about all activities related to Security testing. The State should be notified about the severity of all defects found and provided with a detailed plan, recommendations, and steps taken to fix any issues identified.	Medium

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					during testing. Without this information, there may be security vulnerabilities yet to be identified, discussed, and resolved.		
93	Bobby Malhotra	Technical	Schedule/Resource	Semi-Annual Security Report - #308	There are several requirements (approx. 8 to 10) traced out from the RTM which are being set as NOT MET, for example- Deloitte has not prepared a Security Report, which is required to be submitted every 6 months to the State. As per the requirement, the report must define all security-related activities, upcoming security initiatives, and long-range security plans. The State has not been provided with any such document from the DDI vendor for upcoming security plans, activities to protect the system and application appropriately.	The State should ask Deloitte to provide a plan of action for completing the Security Report. Moving forward Deloitte should submit a Security Report every six months.	Medium
117	Bobby Malhotra	Technical	Quality	UHIP-HIX/IE Security Audit - #395	UHIP-HIX/IE Security Audit Grant Thornton have been appointed to conduct the security audit on UHIP- HIX/IE. The State and Deloitte agreed upon having a SOC 2 Type II audit completed. Grant Thornton's team have expressed some concerns conducting a SOC 2 audit and requested an AT101 audit instead. According to the Bridging document, the audit should be equivalent to SAS Level 2. There is uncertainty and a lack of information available to the State with details to help them distinguish between both audits.	The State should require Deloitte to provide detailed information on AT101. Additionally, the language in the bridging document should be closely reviewed before making any determinations. The state should immediately require the close review of the SAS level 2 to determine the scope of SOC II Type 2.	Medium
104	Bobby Malhotra	Testing	Schedule/Resource	Incomplete Testing Efforts for Interfaces in SIT - #379	Deloitte's Interface SIT efforts primarily entails ensuring the files are correctly formatted and the data can be read. There does not appear to be a testing effort that includes viewing the data collection screens to see if the data is correctly displayed and the appropriate case action is taken per the data received. A Schedule/Resources risk exists because the Interface testing increases the amount of time and effort in UAT. Additionally, with the	The State should require that Deloitte fully test all interfaces in SIT prior to deploying the functionality into UAT, as described in Deloitte's P2 Application Development Plan: The objective of Perform System Integration Testing activity is to test the customized RI UHIP solution and confirm that various sub-systems and interfaces integrate with the solution and function as required. This testing will be performed	Medium

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					current delay in interfaces, this may extend the UAT schedule.	in the System Test environment. The SIT testing effort should include not only receiving the files from partners, but also reading and displaying data appropriately in Bridges.	
121	Gloria Darby	Testing	Schedule/Resource	Phase 1 Testing Resources for Release 7 - #399	Due to staffing changes and vendor changes at the Contact Center, most of the experienced testers from HSRI will not be available to support the HSRI portion of UAT. This experience is crucial to successful testing and allowed the Phase 1 UAT team to "hit the ground running." Having to bring on new testers will require onboarding and the ability to "hit the ground running" will be null and void.	It is suggested that the State work with the new vendor to be able to utilize those testers that may have remained with the Contact Center for UAT.	Medium
120	Bobby Malhotra	Technical	Quality	Automation Regression Testing for Iteration 7 - #398	For phase 1 and 2, Deloitte agreed upon creating the automated quality test suites into their regression test process. First Code Merge for Phase 2 "cycle 3" is scheduled for 2/1, there have been no discussion/plan to date on Automation regression testing. Automation suite was not built for 6.6 release which explicitly was considered as an assumption under ca 35.	Deloitte should provide the update and plan on the automation regression testing. The regression suite should cover E2E HIX/IE functionalities. State should insist Deloitte to immediately provide the timeline and the status on this.	Medium
156	Bobby Malhotra	Technical	Quality	Availability and Content of Design Documents	Terminology used in the database design document is not always used in a precise technical manner. Most of the high-level system documentation has not been updated since 2013. The documentation does not reflect a comprehensive baseline of what would have gone live for the original 2015 release. It does not incorporate the changes for the single database design for go-live in 2016. Implications: The state will not have a clear picture of the system they are receiving which can impact the long-term maintenance and support of the system. Specific examples have been listed below from individual observations	The State should request that Deloitte revise the existing documentation for the single database design to explicitly show at a schema and table level what is considered the source of truth and what is a synchronized copy of the data. The State should request that Deloitte provide additional documentation, including an overall CRUD matrix plus documentation showing the disposition of each HIX table from a post-conversion standpoint. Request documentation, including a thoroughly reviewed and updated single database design document with a	Low

ID #	CSG POC	Big Rocks Category	Dashboard Category	Title	Observations	Recommendations	Risk Rank
					<p>in the Database Consolidation Readiness Assessment Report:</p> <p>#148/432: The single database design document does not paint a clear picture of the final design and implementation. The terminology for database and schema in particular were frequently interchanged or used ambiguously. The re-characterization that the citizen portal will utilize a separate “staging database” is misleading because it is neither a separate database, nor does it reflect the ongoing use for other programs within the citizen portal such as SHOP that are not being consolidated with IES.</p> <p>#149/433: Master matrix showing where data is created, read, updated, and deleted (known as a CRUD matrix) does not exist. The technical designs for individual widgets were identified as having the details for usage of data elements, but these may not be readily cross-referenced or searched across the entire system. Maintenance staff may not be readily able to identify the true impact of data or design changes.</p> <p>#135/418: No systematic identification of HIX/SSP table-by-table disposition has been documented. Users performing ad-hoc reporting, support staff researching discrepancies or implementing data fixes, and future developers and system designers will not have a clear picture of what source system transactional and historical data is valid.</p>	<p>focus on clearly articulating the baseline that would have gone live and itemizing the differences in data storage and replication that will be used by the current implementation. Request a master CRUD matrix showing system-wide usage of data at a schema/table level. Document all existing Phase 1 schemas and tables with a disposition status on each (unused, unmodified, partially converted, dropped, etc.).</p>	

4.4 Catalog of Review

This section includes a list of the RI UHIP interviews, meetings observed, and materials reviewed by the CSG IV&V team during this Monthly IV&V Assessment.

4.4.1 Interviews

This section provides a listing of personnel interviewed during the month.

Table 4 – Project Stakeholders Interviewed

Project Stakeholders Interviewed	Title or Team	Organization
Vanessa Doorley	RI UHIP Project Manager	Office of Digital Excellence
Phil Silva	RI UHIP Technology Lead	Office of Digital Excellence
Deb Merrill	RI UHIP Technology Team	Division of Information Technology
George Bowen	DHS Asst. Director	RI Department of Human Services
Kiernan Conn	CISO	HealthSource RI
Abhinav Taduka	Technical Specialist	Deloitte
Pradeep Singh	Security Specialist	Deloitte
Michael Holte	Interface Lead	Deloitte
Adam Hogue	Mock Pilot 3 Lead	Deloitte
Phil Klebba	Security Specialist	Deloitte
Tim Sanouvong	Sr. Security Manager	Deloitte
Conaty Kelly	State Mock 3 Pilot Lead	RI Department of Human Services
Cheryl Dessaint	State Mock 3 Pilot Lead	RI Department of Human Services
Vania Rebollo	Eligibility Supervisor	RI Department of Human Services
Arora Swapan	Security Manager	Deloitte
Shannon Massaroco	DHS Asst. Director	RI Department of Human Services
Michael Cormican	Security Specialist	Deloitte

4.4.2 Meetings Attended

This section provides a listing of meetings observed.

Table 5 – Meetings Attended

Project Meetings Attended	Participants
UHIP Project Management Team (PMT) Meetings	State, Deloitte, and PCG
Problem Management Meetings	State and Deloitte
Implementation Readiness Review Assessment Meetings	State and Deloitte
Deloitte Technology Round Up Meetings	State and Deloitte
State Technical Status Meetings	State and Deloitte
State and Deloitte Security Meetings	State and Deloitte
IV&V Observations, Risks and Issues Update Meetings	State and Deloitte
Release Preparation Meetings	State and Deloitte
Performance Testing Approach for Release 7	State and Deloitte
Phase 2 HIX/IE Batches discussion	State and Deloitte
IV&V Collaborative Session – Technical Observations	State and Deloitte
Mock Pilot 4 plan discussion	State, FNS, and Deloitte
Daily UAT Defect Triage Meetings	State and Deloitte
Weekly UAT Defect Deep Dive Meetings	State and Deloitte
Weekly Release 7 UAT Update Meetings	State and Deloitte
Weekly Release 7 interface Meetings	State and Deloitte
Disaster Recovery Planning Meetings	State and Deloitte
State Internal Tech Status Meeting	State
EOHHS & HSRI – Testing and Planning Meetings	State and Deloitte
Mock Pilot Planning and Readiness Meetings	State and Deloitte
M&O Contract and Release Preparation	State
Third Party SAR Status and Coordination Meetings	State and Deloitte
RI UHIP Security Discussion	State and Deloitte
Cycle 4 Preliminary SIT Exit Meeting	State and Deloitte
Implementation Activities and Readiness Meetings	State and Deloitte

4.4.3 Documents and Files Reviewed

This section provides a detailed listing of all documents reviewed during the month.

Table 6 – Documents and Files Reviewed

Documents and Files Reviewed
Daily Operations Report
Maintenance and Operations Release Notes
Hot Fixes Release Notes
Key Performance Indicators
System Performance Reports
SIT Build and Unit test results
Release 7 Interface documentation
Release 7 Conversion Document
Security Controls on accessing Production Data for UAT
Implementation Readiness Plan
Maintenance and Operations Contract
Functional Enhancement SIT and Unit Test Results
Mock Pilot Four Plan
Implementation Thread Risk Tracker
Mock Pilot Three Status Report and Implementation activities tracker
Release 7 interfaces tracker with timeline and schedule
Release 7 Performance Testing Plan
Release 7 Batches Calendar and dependencies
Functional Enhancement Unit Test Results
Stellarware, DCYF, CMS Buy interface documents
Code Review
Security Implementation activities and the risk register
MARS-E 2.0 and MARS-E1.0 compliance documents
PMT/Internal CCB and SR

5. DELIVERABLE SIGNOFF AND APPROVAL

The following approval form is used to indicate that this Project Deliverable, the Rhode Island Unified Health Infrastructure Project Monthly IV&V Assessment, has been reviewed by the State and all the necessary project stakeholders, and the authorized signers accept and approve the content herein.

Unified Health Infrastructure Project

State Approvals

CSG Monthly Status Report	
Conditional Deliverable Information	
Conditions of Acceptance:	
How Conditions Were Met:	
Date Resubmitted for Final Acceptance:	
Conditional Deliverable Signoff	
CSG: _____	Date: _____
<input type="checkbox"/> Approved With Indicated Conditions	<input type="checkbox"/> Not Approved
State Representative: _____	Date: _____
Final Deliverable Signoff	
CSG: _____	Date: _____
DOA Representative: _____	Date: _____